



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
 1200 Sixth Avenue
 Seattle, Washington 98101

October 18, 1995

MEMORANDUM

SUBJECT: Applicable, or Relevant and Appropriate, RCRA Regulations for the McCormick and Baxter Creosoting Company Superfund Site, Portland, Oregon

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TO: McCormick and Baxter Site File

This memorandum provides the U. S. Environmental Protection Agency's (EPA) and the Oregon Department of Environmental Quality's (DEQ's) findings with regard to designation of wastes at the McCormick and Baxter Superfund Site under the Resource Conservation and Recovery Act (RCRA) and other issues related to RCRA as an applicable, or relevant and appropriate, requirement (ARAR) for the Superfund cleanup.

RCRA Designation of Waste

McCormick & Baxter Creosoting Company began wood treatment operations at the facility in 1945. The various treatment processes used at the site are summarized below:

- Retort 1: Creosote in aromatic oils (1945 to October 10, 1991)
- Retorts 2 & 4: Pentachlorophenol (PCP) in aromatic oils (1953 to October 10, 1991).
- Retort 3: Water based treatment (chromium from 1954-1970, ammoniacal copper arsenate from 1970-1986, and ammoniacal-copper-zinc-arsenate [ACZA] from 1986 to October 10, 1991)
- Retort 4: Cellon (PCP in liquid butane and isopropyl ether) from 1968 to 1988.

The Remedial Investigation Report, completed in 1992, documents the extensive contamination of the site soils, groundwater and sediments. The nature and extent of contamination at the site is summarized in the 1995 Revised FS Report.

The primary source areas include the main process area where wood treatment occurred, the tank farm and creosote tanks, the former waste disposal area (FWDA) located in the northwest corner of the site, and the butt tank and waste trench located south of the



tank farm. Widespread surficial soil contamination is located throughout the site where treated logs were stored.

Listed hazardous wastes typically associated with facilities of this type include:

F032 - Process waste residuals, preservative drippage, and spent formulations from woodtreating operations using pentachlorophenol.

F034 - Process waste residuals, preservative drippage, and spent formulations from woodtreating operations involving creosote.

F035 - Process waste residuals, preservative drippage, and spent formulations from woodtreating operations involving arsenic or chromium.

K001 - Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.

Limited information is available concerning historical waste management activities conducted by McCormick & Baxter. Former employees interviewed during the RI had no first hand knowledge of disposal practices prior to the early 1970s. The FWDA and waste trench areas have been identified in reports as potential disposal areas for oil/water separator sludges and evaporator sludges. The waste pond/waste trench were site features for some period of time, while the FWDA was in use only from 1968 through 1971. The evaporator and oil/water separator wastes were dmmmed and stored on site after 1971. No dates are available for surface sludge deposits. It is not clear if, or where, bottom sludges were disposed of on site. The chemical and physical composition of these sludges are indistinguishable from other similar wood treating wastes (tank sludges, spilled product, etc, [i.e. F032/F034]).

McCormick & Baxter had accumulated 129 dmms of hazardous waste designated as K001, F032 and/or X001 hazardous waste at the time of plant closure on October 11, 1991. These wastes were manifested and properly disposed of in accordance with RCRA regulations in 1992. In 1994, DEQ completed plant demolition activities which included removal of 795 tons of sludges from retort sumps and tanks. All known K001 wastes have been removed from the site.

It is possible that there are RCRA characteristic waste present on the site, based on the Toxic Characteristic Leach Procedure (TCLP) mle (40 CFR §261.24). Some of the moderately contaminated materials on the site have been tested and did not fail the TCLP test. A limited number of soil samples have been analyzed for toxicity characteristics using either EP-Tox or TCLP leaching tests. No samples have failed the regulatory threshold criteria for characteristic waste. It is theoretically impossible for pentachlorophenol-contaminated soils to fail TCLP because of its solubility relative to the regulatory threshold (14 mg/l vs. 100 mg/l respectively), unless a solvent were present which would increase the

solubility. The most highly contaminated soils could potentially fail for arsenic, chromium, or cresols, which have regulatory TCLP levels of 5, 5, and 200 mg/l, respectively. Heavily contaminated materials have not been tested.

Oregon also has an additional, state-only designation, X001, for pesticide residues, based on the results of a specific aquatic toxicity test. However, a pesticide residue is not an X001 waste when it either: 1) is a listed hazardous waste, or 2) contains constituents for which there are TCLP regulatory thresholds but does not exceed those thresholds (see OAR 340-101-033(5)).

Listed hazardous waste designations which could be applied to contaminated soils at the site are F032, F034, and F035. In Oregon, F034 and F035 became effective on October 16, 1992. Since McCormick and Baxter ceased wood preserving activities on October 11, 1992, the facility did not actively generate F034 and F035 waste. F032, a HSWA waste, became effective in Oregon on June 6, 1991, but the designation of F032 waste in wood preserving processes was conditionally stayed by EPA until February 6, 1992 (see 56 FR 27333, June 13, 1991). Regardless of the effective dates of the listings, soil contaminated at any time with waste which meets the definition of a listed hazardous waste takes on that waste designation when it is actively managed outside of the area of contamination (AOC)¹. Therefore, all contaminated soils at the McCormick and Baxter facility that are actively managed outside of the AOC after the effective dates are considered to carry the F032, F034 and F035 waste designations, in addition to any TCLP designations that may be determined to apply.

This concept also applies to liquid wastes. DEQ has designated hazardous waste codes F032/F034 to non-aqueous phase liquid wastes being recovered from the groundwater at the site and sent off-site for treatment under an interim remedial action.

RCRA Closure

Substantive RCRA closure requirements are applicable at Superfund sites to hazardous waste management units which would be regulated under the RCRA program. Regulated units are created when hazardous waste is disposed of or stored after the effective date of the regulation making the waste either a characteristic or listed hazardous waste. "Waste management unit" is defined at OAR 100-010(2)(dd) as a contiguous area of land on or in which waste is placed. At McCormick and Baxter, there are no existing regulated units. However, regulated units could be created if remedial activities constitute storage, treatment, or disposal of characteristic or listed hazardous waste.

At the McCormick and Baxter site, RCRA closure requirements are not applicable, but have been determined to be relevant and appropriate to contaminated soils which pose an

¹The entire site is contaminated, therefore the entire site is considered an AOC.

unacceptable threat to human health and the environment. A hybrid landfill closure using a permeable cap will meet the relevant and appropriate portions of RCRA closure regulations. Such a cover has been included in all alternatives except no action. The hybrid landfill closure would include long-term maintenance and institutional controls, and would prevent direct exposure to site contaminants. The permeable cap will not minimize infiltration, however, due to the close proximity of the Willamette River and the presence of contamination which already extends below the water table, minimizing infiltration is not a remediation goal at this site. The relative mass of contamination in the saturated zone vs. the vadose zone is estimated to be approximately 20 to 1. Therefore, a cap that minimizes infiltration would be ineffective in preventing mobilization of wastes into groundwater.

Treatment of Wastes

As noted above, RCRA regulations would also become applicable if the proposed CERCLA action constitutes "disposal" of listed or characteristic hazardous waste. Consolidation and/or capping within an AOC such as is proposed for Feasibility Study alternatives S2a (Capping) and S2-b (Consolidation and Capping) would not constitute disposal and RCRA regulations would not be applicable (but portions of the regulations would be relevant and appropriate). All other proposed alternatives involve consolidating and treating the most highly contaminated soils, and thus would include "disposal". RCRA regulations triggered by disposal will be applicable to these alternatives, unless EPA and DEQ designate a Corrective Action Management Unit (CAMU) to allow for on-site treatment of the waste in a land-based unit (see 40 CFR 264.522).

RCRA Land Disposal Restriction (LDR) standards for F032, F034, and F035 wastes are expected to be proposed in late 1996. RCRA characteristic wastes are already covered under the LDRs. If any of the waste on-site is RCRA characteristic under the TCLP mle, it cannot be placed in a land-based treatment or disposal unit, unless a CAMU is designated. For other proposed treatment technologies (e.g. soil washing, bioslurry, low temperature thermal desorption), the waste (if it is characteristic) must be treated to meet LDR standards before land disposal (40 CFR 268), unless a treatability variance is obtained (see OSWER Directive 9247.3-06FS). Characteristic wastes must also be treated to remove the characteristic, or the treatment residuals must be disposed of in a Subtitle C facility.

EPA and DEQ have determined that it may be appropriate to designate a CAMU to allow for on-site treatment under alternatives which call for on-site treatment and disposal (S-3 through S-6). DEQ's September 1995 revised Feasibility Study provides the basis for EPA's and DEQ's determination that a CAMU is appropriate at this site. For alternatives S4a (Soil Wash, Slurry Biotreatment, and Cap), S6a (On-site Thermal Desorption and Cap), and S6b, (On-site Thermal Desorption, Stabilization, Consolidate, and Cap) a treatability variance would be appropriate if the technology cannot meet LDR requirements. Alternative S4b (Soil Wash, Off-site Incineration, and Cap) must comply with EPA's Off-Site Rule (55 FR 49200, September 22, 1993), and all other applicable requirements, including the Land Disposal Restrictions.

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